



1971

OPERATING

SUMMARY

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EGANVILLE

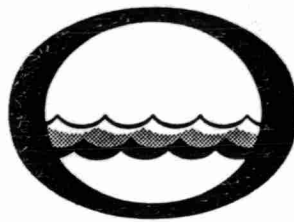
WATER POLLUTION CONTROL PLANT

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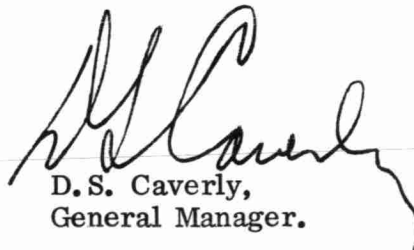



Water management in Ontario

Ontario
Water Resources
Commission

We are pleased to submit for your consideration a summary of operation during 1971 of the water pollution control plant serving your community.

This operating summary contains parameters normally used to measure plant performance and loading, as well as relevant cost data. Because of the concern over eutrophication of our lakes and of the requirement, in many parts of Ontario, to remove the major contributing factor, results of analysis for phosphorus appear in this summary.


D.S. Caverly,
General Manager.


D.A. McTavish, P. Eng.,
Director,
Division of Plant Operations.

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EGANVILLE

WATER POLLUTION CONTROL PLANT

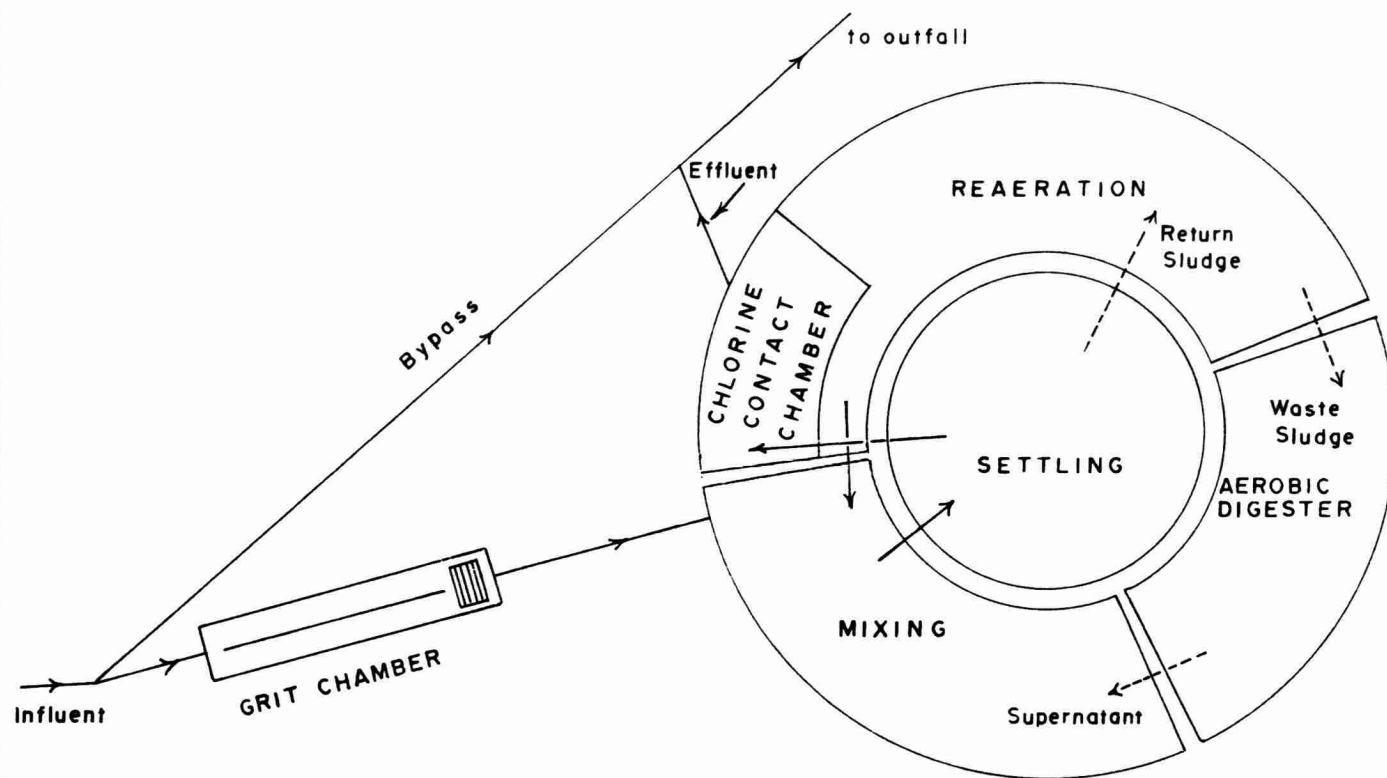
1971 ANNUAL OPERATING SUMMARY



Environment Ontario
Laboratory Library
125 Resources Rd.
Etobicoke, Ontario M9P 3V6
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EGANVILLE
WATER POLLUTION CONTROL PLANT

PROJECT NO. 1-0007-66

TREATMENT Extended Aeration

DESIGN FLOW 0.168 mgd

BOD - Raw Sewage
- Domestic 182 mg/l
- Creamery 154 mg/l

Removal 80%

PRIMARY TREATMENT

Grit Removal

Type: Parallel channels, manually
cleaned
Size: Two 17'4" x 1'2"

SCREENING

Type: Manually cleaned
Size: 1 $\frac{1}{4}$ " openings

COMMINUTION

Type: Aer-o-Flow Type A-12

SECONDARY TREATMENT

Aeration Tanks

Type: Diffused air
Size: 83,400 gal
Retention: 12 hours

Air Supply

Type: Dresser type RAI
Size: Three-340 scfm @ 7 psi

SECONDARY SEDIMENTATION

Size: 25'8" dia x 15' (37,500 gal)
Retention: 5.3 hours
Loading: Surface 388 gal/ft²/day
Weir: 1170 gal/ft/day

CHLORINATION

Type: Wallace & Tiernan Type 831
Size: 20 lbs/day

Chlorine Contact Chamber

Size: 3900 gal
Retention: 30 minutes

OUTFALL

OUTFALL

- to Bonnechere River

SLUDGE HANDLING

Digestion System

Type: Aerobic
Size: 56,000 gal

PUMPING STATIONS

North Side

Two Flygt Model CP-3100, 350 US
gpm @ 35' TDH

Water Street

Two Flygt Model CP-3100, 150 US
gpm @ 25' TDH

'71 Review

GENERAL

This project encompasses a secondary sewage treatment plant consisting of an extended aeration/contact stabilization package treatment plant, two pumping stations, trunk sewers and a collector sewer system.

As this was the initial year of operation several start-up problems were encountered but were corrected by the contractors.

Several sewers, watermains and associated services located on Highway 41 in the Village were relocated by the Department of Transportation and Communications due to a highway reconstruction project.

PLANT FLOWS and CHLORINATION

The actual flow of raw sewage to the plant could not be calculated accurately due to initial start up problems with the flowmeter. The flow for the last 6 months of the year was estimated to be 19.76 million gallons or approximately 0.129 mgd. This flow exceeded volume of water pumped to the water distribution system due to consumers connected to the sewage system with private sources of water.

A total of 825 pounds of chlorine was used to disinfect the plant effluent.

EXPENDITURES

The total operating costs for the sewage system for 1971 was \$21,220.36. The cost of treating 1 million gallons of sewage was \$1,073.00 or approximately 90 cents per pound of BOD removed.

PLANT EFFICIENCY

The average concentrations of BOD and suspended solids in the plant influent were 364 and 392 mg/l respectively. The average concentrations of BOD and suspended solids in the effluent were 8 and 12 mg/l respectively. The average percent reductions in BOD and suspended solids were 97 and 91 percent respectively. These efficiencies are extremely good and are well within the OWRC objectives.

SLUDGE DIGESTION (AEROBIC)

A total of 483 cubic yards of waste sludge was removed from the sewage treatment plant and disposed of at the sludge disposal site.

CONCLUSIONS

The percent reduction of BOD and suspended solids at the plant was excellent.

PLANT PERFORMANCE

MONTH	FLOWS				BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				TOTAL PHOSPHORUS		
	TOTAL FLOW	AVERAGE DAY	MAXIMUM DAY	MAXIMUM RATE	INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDU
	million gallons	mil gal	mil gal	mgd	mg/L	mg/L	%	10 ³ pounds	mg/L	mg/L	%	10 ³ pounds	mg/l as P	mg/l as P	%
JAN															
FEB															
MAR															
APR															
MAY															
JUNE															
JULY	-	-	-	-	319	5	-	-	699	8	-	-	8.4	11.0	0
AUG	1.62	0.52	-	-	235	18	92	3.5	558	8	91	1.6	25.2	8.0	68
SEPT	1.93	0.64	-	-	389	6	98	7.4	129	5	96	2.4	8.7	7.0	20
OCT	1.87	.060	-	-	139	4	97	2.5	78	18	77	1.1	5.8	5.5	5
NOV	5.62	.187	-	-	410	6	97	15.0	195	15	92	10.1	10.6	5.5	48
DEC	8.72	.281	-	-	1040	7	99	90.0	800	20	98	68.0	10.2	2.9	72
TOTAL	19.76	-	-	-	-	-	-	118.4	-	-	-	83.2	-	-	-
AVG.	-	.129	MAXIMUM	MAXIMUM	364	8	98	23.7	392	12	97	16.6	12.0	7.0	42
No. of Samples	-	-	-	-	21	11	-	-	20	11	-	-	19	11	-

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